ABSTRACT OF THE DISCLOSURE

An electrical power generation system includes a transducer that generates electrical energy under dynamic mechanical loading. A buffer is mechanically coupled to the transducer and adapted to be mechanically coupled to a structure. The buffer facilitates the transducer to operate within a predetermined mechanical loading range to allow the system to provide electrical energy.

An electricity generator module includes a transducer that generates electrical energy under dynamic motion conditions. A circuit coupled to the electrically transducer converts the electrical energy into usable electricity at a circuit output. A planar housing encloses the transducer and circuit and (i) allows the transducer to be exposed to the dynamic motion conditions and (ii) provides electrical contacts that facilitate delivery of the useable electricity for external circuitry.